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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,362	07/11/2001	Felix Achille	44452A	9554

109 7590 08/11/2004

THE DOW CHEMICAL COMPANY  
INTELLECTUAL PROPERTY SECTION  
P. O. BOX 1967  
MIDLAND, MI 48641-1967

EXAMINER
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TRAN, THAO T

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/903,362	<b>Applicant(s)</b> ACHILLE, FELIX	
	<b>Examiner</b> Thao T. Tran	<b>Art Unit</b> 1711	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 12-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 32-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This is in response to the Amendments received on June 03, 2004.
2. Claims 1-33 are currently pending in this application. Claim 33 has been newly added. Claims 12-31 have been withdrawn from further consideration as being drawn to a nonelected invention.
3. This application contains claim 17, which is drawn to an invention nonelected with traverse as indicated in the Office action of March 04, 2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-11 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagata et al. (US Pat. 5,567,744).

Nagata teaches a polymer blend composition and a method of making, comprising mixing a high water-absorbent resin (superabsorbent polymer) and a thermoplastic resin (see abstract; col. 3, ln. 47-51). Note: Since Nagata teaches the same polymer blend, the reference's polymer blend would inherently be extrudable as recited in the preamble.

Nagata further teaches that the polymer blend composition is formed by stirring and mixing the high water-absorbent resin and the thermoplastic resin, and then raising the temperature near the softening point or melting point of the thermoplastic resin, and thereby fusing the thermoplastic resin onto the surface of the high water-absorbent resin (see col. 3, ln. 48-57). Thus, the composition of Nagata is also melt-mixed.

In regards to claims 1, 5-7, and 10, Nagata teaches the water-absorbent resin being crosslinked starch-acrylate graft copolymers, acrylate-methacrylate copolymers or methylacrylate-vinyl acetate copolymers, and the thermoplastic resin being ethylene-acrylic acid copolymer (see col. 2, ln. 47-53; col. 3, ln. 32-33). Although Nagata is silent with respect to the thermoplastic resin having a functional group interacting ionically or covalently with the water-absorbent resin, since the reference teaches the same resins, the resins would inherently react with each other in the same way as presently claimed.

In regards to claims 2 and 32, although Nagata is silent with respect to the melt draw down rate, melt tension, and melt flow rate of the blend; since the reference teaches the same polymer blend as that of the presently claimed invention, Nagata's polymer blend would inherently have the same physical properties.

In regards to claims 3-4, Nagata teaches the high water-absorbent resin being acrylate-methacrylate copolymers, or methylacrylate-vinyl acetate copolymers (see col. 2, ln. 50), whose monomers are monocarboxylic acids, which are water-soluble  $\alpha,\beta$ -ethylenically unsaturated monomers.

In regards to claim 9, Nagata further teaches a mixture of the thermoplastic resins, which include polyethylene or polypropylene (see col. 3, ln. 30-35).

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In regards to claims 8 and 11, Nagata teaches the polymer blend composition further comprising a surfactant (see col. 7, ln. 22).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata as applied to claim 1 above.

Nagata is as set forth in claim 1 above and incorporated herein.

Nagata teaches the thermoplastic resin being from 1 to 100 parts based on 100 parts by weight of the water-absorbent resin (see col. 4, ln. 9-12), which is from 1 to 50% by weight based on the total blend, overlapping the instantly claimed range.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have used the overlapping portion, as taught by Nagata, because by teaching about 50%, Nagata directly teaches the use of a weight percent within the instantly claimed range. See MPEP 2144.05I.

***Response to Arguments***

8. Applicant's arguments filed June 03, 2004 have been fully considered but they are not persuasive.

Throughout the Remarks, Applicants contend that Nagata does not teach a blend that is melt-mixed. However, as pointed out in paragraph 6 above, Nagata teaches mixing

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a high water-absorbent resin with a thermoplastic resin, heating the mixture to a temperature near the melting point of the thermoplastic resin to soften and melt the thermoplastic resin and adhere the thermoplastic resin onto the surface of the high water-absorbent resin (see paragraph bridging col. 3-4). Thus, Nagata does teach a melt-mixed blend of the resins of the presently claimed invention.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 8:30 a.m. - 5:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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August 4, 2004



James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700